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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/561,312

12/19/2005

Gustav Sieber

3513

8181

7590
Striker Striker & Stenby
103 East Neck Road
Huntington, NY 11743

10/19/2007

EXAMINER

RO, BENTSU

ART UNIT

PAPER NUMBER

2837

MAIL DATE

DELIVERY MODE

10/19/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/561,312

Applicant(s)

SIEBER ET AL.

Examiner

Bentsu Ro

Art Unit

2837

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 September 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

SECOND OFFICE ACTION ----- A NONFINAL REJECTION

1. A hard-copy of replaced Figs. 1-8 has not been received. Applicant should submit a hard-copy of the replaced Figs. 1-8.
2. Claim 18 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Applicant's inventive embodiments include a sensor unit 9 for measuring the contact pressure, see Fig. 1 for example. The sensor unit 9 can be a strain gauge or a piezoelectric sensor (see applicant's specification page 3, lines 24-26) or a current-measuring device for measuring the motor current (see specification page 4, lines 1-4). The sensor unit 9 cannot be simultaneously a current-measuring device (claims 15, 16) and a strain gauge and/or a piezoelectric sensor (claim 18). In other words, the subject matter of claims 15, 16 and the subject matter claim 18 are mutually exclusive. In the new set of claims, the claim 18 depends on both claims 15 and 16 and thus the subject matter of claim 18 contradicts with the subject matter of claims 15 and 16.

3. The sensor unit at least contains two different species: the current measuring device and the strain gauge/piezoelectric sensor. The different species are restrictable. For the time being, the examiner chooses the current measuring device as an elected species. The strain gauge/piezoelectric sensor will not be examined on merit until the

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subject matter of independent claims become allowable. Currently, the power tool having sensor unit and signal transducer is not allowable regardless of the types of the sensor unit.

4. The indicated allowability of claims 4 and 5 is withdrawn in view of the newly discovered reference(s) to Yi et al; Nolting et al; and other references. Rejections based on the newly cited reference(s) follow.

5. Claims 15-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Klingbeil US Patent No. 6,172,472. (This is a new reference.)

Alternatively, claims 15-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Klingbeil US Patent No. 6,172,472 in view of anyone of the following US Patents: (All new references.)

- Nolting et al 5,239,479;
- Becker et al 6,000,313;
- Yi et al 6,602,110;
- Kaeseler et al 6,906,276.

Claims read onto Klingbeil's teaching as shown in the following comparison chart:

The claims:	Klingbeil's teaching:
Claim16 (and similar but broader claim 15 and method claims 27, 28). An electric power tool,	Klingbeil teaches a power tool in general; column 1, lines 18-20 states that <i>"...and electric tools like electric drills, electric grinders, electric saws, electric</i>

<p>having an electric motor acting to drive a tool,</p> <p>having a control and/or regulating unit serving to guide the operation of the electric motor</p> <p>and having a sensor unit,</p> <p>which detects the contact pressure of the tool against a workpiece</p> <p>and cooperates with the control and/or regulating unit,</p> <p>wherein the sensor unit has a current-measuring device, which detects the current of the electric motor.</p>	<p><i>cutter operating with grinding blades, circular saws and saber saws, etc."</i></p> <p>Fig. 1 shows a control system 1 for the power tool in general; the control system 1 includes an electric motor 2 to drive the power tool;</p> <p>Fig. 1 shows a microcontroller 5;</p> <p>Fig. 1 shows a current-measuring device 4 which is a sensor unit;</p> <p>Klingbeil teaches a current measuring device 4 for measuring motor current; Klingbeil does not correlate the motor current to a "contact pressure"; however, correlating the motor current to a contact pressure is prior art as taught by anyone of the secondary references shown above;</p> <p><u>see the examiner's comments next to this comparison chart.</u></p> <p>the microcontroller 5 controls the motor speed via a control element 3 based on the sensed motor current from the current measuring device 4;</p> <p>the sensor unit is a current measuring device 4.</p>
<p>17. The electric power tool in accordance with claim 16, wherein the sensor unit cooperates with a signal transducer.</p>	<p>the "signal transducer" reads onto the liquid crystal display 11 or reads onto the LED 9;</p> <p>it is noted that all elements in Fig. 1 are cooperated each other, including the cooperation of display 11, the LED 9 and the current measuring device 4.</p>

19. The electric power tool in accordance with claim 15 or 16, wherein the current measuring device has a shunt, through which the motor current flows, and the an electronic evaluation unit.	Fig. 4 shows a current sensing resistor 4c; the "electronic evaluation unit" can read onto Fig. 1, the microcontroller 5 or can read onto Fig. 4 the voltage detector 4c'.
20. (and similar claim 21.) The electric power tool in accordance with claim 15, wherein the signal transducer is an optical and/or an acoustical signal transducer and/or a signal transducer that calls on the sense of touch.	Fig. 1 shows optical signal transducer LED 9 or display 11.
24. (and similar claims 25, 26.) The electric power tool in accordance with claim 16, wherein the control and/or regulating unit controls and/or regulates the torque of the tool, or of a tool receptacle, as a function of the contact pressure of the tool against the workpiece.	in Fig. 1, the microcontroller 5 controls the motor torque and the motor speed based on the measured motor current by pulse width modulation method.

Examiner's comments:

- Structure-wise, the independent claims 15, 16, 27, 28 are claiming a conventional motor control system for a power tool. The only difference between the prior art teaching and the claims is merely a terminology (a motor current versus a contact pressure).
- Because the control structure or the control system of the prior art is identical to the subject matter as claimed in the independent claims, the difference due to the

terminology alone does not make the subject matter allowable whether the terminology is same or different. For example, one can always call the current signal as a "current" or as a "contact pressure".

- Correlating the motor current value to a tool's "contact pressure" is prior art as taught by Nolting et al (5,239,479). Nolting column 1, lines 40-44 states that *"The contact between the cutting tip of the tool and the workpiece is detected either by an electrical pressure sensor in the tool holder or by an electric current circuit which is closed when the tool touches the workpiece."*
- Correlating the motor current value to a "contact pressure" is prior art as taught by Becker et al (6,000,313). Becker column 2, lines 39-40 states that *"....because the torque is proportional to the current strength of the motor and can serve as a control value for the contact pressure."*
- Correlating the motor current value to a tool's "contact pressure" is prior art as taught by Yi et al (6,602,110). Yi et al column 9, lines 20-24 states that *"The torque value applied to the torque control loop 216 represents the desired torque on the polishing tool 24, and therefore the desired contact pressure applied by the polishing head 26 to the surface 12 of the mold pin 14, during a polishing cycle."*
- Correlating the motor current value to a tool's "contact pressure" is prior art as taught by Kaeseler et al (6,906,276). Kaeseler column 2, lines 52-53 states that *".....after a certain contact pressure force has been reached based on a certain electric current, the motor current,"*

Claims 22 and 23 are claiming different species than that of claim 21. Because the species of claim 21 is not allowable, the species of claims 22 and 23 would also not be allowable based on an obviousness reason.

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

7. Any inquiry concerning this communication should be directed to Bentsu Ro at telephone number 571 272-2072.

/Bentsu Ro/
Senior Examiner
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